ENERGY POLICY UPDATE

October 28, 2014

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

UPCOMING WEBINARS

- ENERGY STAR Webinars
- U.S. Dept. of Energy Tribal Renewable Energy Webinar Series for 2014

UPCOMING EVENTS 2014 – 2015

Solar Zone: Advancing the Next Generation of Innovation
Oct 29, 2014 Tucson, AZ

As the World Trades Forum
Nov. 6 Phoenix, AZ

Governor's Celebration of Innovation
Nov. 13 Phoenix, AZ

Western Water Conference
Nov. 13 Huntington Beach, CA

ACEEE Intelligent Efficiency Conference
Nov. 16-18 San Francisco, CA

Renewable Energy Markets Conference
Dec. 2-4 Sacramento, CA

Solar Power Generation USA
Feb. 4-5 San Diego, CA

GreenBiz Forum 2015
Feb. 17-19 Phoenix, AZ

2015 Sustainability Solution Festival
Feb. 17-22 Phoenix, AZ

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

Apple Supplier GT Wins Approval To Close Mesa Factory
[Arizona Republic, Oct. 21] GT Advanced Technologies Inc., the Apple supplier in Mesa that hoped to provide the tech company scratch-resistant glass, won court approval in Massachusetts on Tuesday to close the Arizona factory, Bloomberg reported. Last week GT Advanced Technologies sent a letter to city of Mesa officials warning that more than 700 employees would be laid off, not including another 550 contract workers also losing their jobs at the factory. GT filed for Chapter 11 bankruptcy protection Oct. 6 in a surprise move as it was gearing up the factory in hopes of reaching full capacity in January. The company did not say why it was in financial straits, citing confidentiality agreements with Apple, which loaned it nearly $500 million to build out the Mesa factory in the shell formerly occupied by First Solar Inc. Apple also wanted to keep the explanation for the bankruptcy under seal.

Arizona Ranks 15th in Energy Efficiency
[Arizona Daily Star, Oct. 23] Arizona ranked 15th in the nation and near the top in the Southwest for its energy-efficiency efforts, though it slipped from last year in a ranking issued by a group pushing for energy savings. In the annual report by the nonprofit American Council for an Energy-Efficient Economy, Massachusetts edged out California as the most energy-efficient state in the nation for the fourth year in a row. Following those states in the top 10 were: Rhode Island, Oregon, Vermont; Connecticut, New York, Washington, Maryland and Minnesota. The states were ranked on a point system for categories including utility policy, transportation, building energy codes and state government initiatives. Colorado ranked the highest overall among five Southwest states, at No. 13 nationally, followed by Arizona, New Mexico, Utah and Nevada. But Arizona was the top state in the region for utility policies and programs, noted Jeff Schlegel, Arizona representative for the Southwest Energy Efficiency Project, or SWEEP. SWEEP, which was founded by a former director of the American Council for an Energy-Efficient Economy, advocates for efficiency programs in the five Southwestern states plus Wyoming. Arizona also was in the top five nationally for incremental electricity savings in 2013, placing fourth with savings of 1.74 percent of retail power sales. Top-ranked Rhode Island saw savings of about 2.1 percent. The state's energy-efficiency standard, adopted by the Arizona Corporation Commission in 2010, requires public utilities such as Tucson Electric Power Co. and Arizona Public Service Co. to achieve annual energy savings of at least 22 percent of their retail power sales by 2020. About half of the states have adopted energy-efficiency standards, with varying goals.

Alternative Clean Transportation (ACT) Expo
May 4-7 Dallas, TX

Solar Power Generation Mexico
May 19-20, 2015
World Trade Center, Mexico

Green Building Lecture Series
Granite Reef Senior Center
Scottsdale, AZ

ASU Sustainability Series Events

Green Building Lecture Series
Scottsdale, AZ

UPCOMING INTERNATIONAL BUSINESS EVENTS

Global Chamber® Launch - Nov. 5 in Phoenix
Oh my, it's coming! Watch for the new website and a whole new way of getting connected with global business. More info.

Global Chamber® Tucson Launch - Nov. 6 in Tucson
Also coming to Tucson, introduced by Mayor Rothschild. More info.

NEW! As the World Trades Forum - Nov. 6 in Phoenix.

Governors Celebration of Innovation - Nov. 13 in Phoenix
By AZ Tech Council, the event for tech innovators in Arizona. More info.

ASU Grant Aims To Transform Global Energy Landscape
[ASU News, Oct. 22] Changing the way the nation generates and consumes energy is at the heart of a multimillion dollar grant awarded to Arizona State University from the Department of Energy. Under the grant, the university will develop an efficient and cost-effective carbon capture technology using an innovative electrochemical technique to separate carbon dioxide from other emissions originating from power plants. In what could be an economically enabling breakthrough in the drive to reduce carbon emissions, ASU researchers will explore the real possibility of reducing energy and cost requirements by more than half. Led by Dan Buttry, professor and chair of ASU's Department of Chemistry and Biochemistry in the College of Liberal Arts and Sciences, the grant is part of a special Department of Energy program designed to pursue high-risk, high-reward advances in alternative energy research.

Official: Gas Utilities Appear Prepared for Winter
[Arizona Daily Star, Oct. 22] PHOENIX — A state regulator says Arizona natural gas customers can rest assured that utilities will be able to meet the winter demand for heating. Corporation Commission Chairman Bob Stump says a warmer-than-normal winter is forecast and that utilities appear prepared to meet energy demands during the state's colder months. Gas utilities and pipeline companies on Tuesday presented the commission with the companies' plans to meet heating demands in the upcoming winter.

ALTERNATIVE ENERGY & EFFICIENCY

Big Utilities Pushing Into Booming Home Solar Market
[Reuters, Oct. 22] For years, the utilities responsible for providing electricity to the nation have treated residential solar systems as a threat. Now, they want a piece of the action, and they are having to fight for the chance. If utilities embrace home solar, their deep pockets and access to customers could transform what has been a fast-growing, but niche industry. Solar powers only half a million U.S. homes and businesses, according to solar market research firm GTM Research. But utility-owned rooftop systems represent a change the solar installation companies who dominate the market don't want, and whether the two sides can compromise may determine if residential solar truly goes mainstream. In Arizona, the state's largest utility has proposed putting solar panels on 3,000 customers' homes, promising a $30 monthly break on their power bills. In New York, regulators are weighing allowing utilities to get into the solar leasing business to meet the state's aggressive plan to incorporate more decentralized, renewable power onto the grid. That's a change from the industry's recent skepticism of residential solar. Last year, for example, the Edison Electric Institute, a utility trade group, in a report described rooftop solar as a "disruptive challenge" that could squeeze revenue and profits as customers defected, leaving companies forced to maintain grids that serve all. Residential solar grew 45 percent in the second quarter from the previous year and installations are expected to exceed 1 gigawatt this year, or about enough for 165,000 homes, according to GTM Research. That growth has been underpinned by government subsidies and falling equipment costs that have allowed startups to underprice utilities. No-money-down solar leases also have made rooftop systems much more financially accessible, boosting demand.

Department Announces Funds To Improve Energy Efficiency of Commercial Buildings
[Sustainable Cities Network, Oct. 26] Washington, D.C. – As part of the Obama Administration's effort to double energy productivity by 2030 and reduce carbon emissions in commercial buildings, the Energy Department announced $9 million to encourage investments in energy-saving technologies that can be tested and deployed in offices, shops, restaurants, hospitals, hotels and other types of commercial buildings. The funding will facilitate the implementation of market-ready solutions across the U.S. to improve commercial building energy efficiency, with a goal of demonstrating 20 percent savings or more across a variety of approaches. Last year, commercial buildings accounted for approximately 20 percent of total U.S. energy use, equivalent to about 18 quadrillion British thermal units of energy. Owners and occupants could cut energy waste, saving an estimated tens of billions of dollars annually, if they operated their buildings more efficiently and invested in energy-saving technologies. Additionally, accelerating investment in efficiency upgrades could also lead to greater demand for new building products and technologies, many of which are produced and developed in the U.S.

Electric-Car Drivers Trading Gas for Solar Power
[Associated Press, Oct. 28] DETROIT – Owner of electric vehicles have already gone gas-free. Now, a growing number are powering their cars with sunlight. Solar panels installed on the roof of a home or garage can easily generate enough electricity to power an electric or plug-in gas-electric hybrid vehicle. The panels aren't cheap, and neither are the cars. A Ford Fusion Energi

plug-in sedan, for example, is $7,200 more than an equivalent gas-powered Fusion even after a $4,007 federal tax credit. But advocates say the investment pays off over time and is worth it for the thrill of fossil fuel-free driving. "We think it was one of the best things in the world to do," says Kevin Tofel, who bought a Chevrolet Volt in 2012 to soak up the excess power from his home solar-energy system. "We will never go back to an all-gas car." No one knows exactly how many electric cars are being powered by solar energy, but the number of electric and plug-in hybrid cars in the U.S. is growing. Last year, 97,563 were sold in the U.S., according to Ward's AutoInfoBank, up 83 percent from the year before. Meanwhile, solar installations grew 21 percent in the second quarter of this year, and more than 500,000 homes and businesses now have them, according to the Solar Energy Industries Association

Home Solar Power Discounts Are Worker Perk in New Program

[New York Times, Oct. 22] Expanding the notion of corporate benefits beyond discounted health club memberships and low insurance rates, a group of major companies is set to offer employees access to cheaper solar systems for the home. Under an arrangement announced Wednesday, employees of the companies — Cisco Systems, 3M, Kimberly-Clark and National Geographic — will be able to buy or lease solar systems for their homes at rates substantially lower than the national average, executives said. The program, offered through Geostellar, an online marketer of solar systems, will be available to more than 100,000 employees and will include options for their friends and families in the United States and parts of Canada. Conceived at the World Wildlife Fund, the program, called the Solar Community Initiative, aims to use the bulk buying power of employees to allow for discounts on home systems. The program's expansion is a reflection of the shrinking gulf between camps that were once considered mutually exclusive: environmental advocacy organizations and mainstream corporate America. "Our objective was to make this as simple and cheap as possible," said Keya Chatterjee, senior director for renewable energy at the World Wildlife Fund. After receiving discounts through a group program for employees last year, officials at the environmental group approached a few of their corporate partners, she said.

Solarworld Benefits from US Anti-Dumping Ruling With Increased Sales

[PV Tech, Oct. 28] SolarWorld has reported preliminary financial results for third quarter of 2014, marking a significant increase in PV module shipments and revenue, primarily due to sales in the US after the anti-dumping ruling. The company reported third quarter 2014 revenue of €181 million, up from €128.6 million in the prior quarter and ahead of the second US anti-dumping ruling. Shipments, primarily PV modules were 270MW in the third quarter, up from 193MW in the previous quarter. The company noted that 42% of shipments were to the US in the quarter, compared to only 22% in the prior year period. SolarWorld claimed that its European export markets as well as Japan increased in the first three quarters of 2014, while its traditional core market, Germany, saw shipments increase slightly. Full details are expected to be provided in SolarWorld's full report due to be released in November.

Why Solar Is Much More Costly Than Wind or Hydro

A new report from the E.U. estimates the true economic cost of different forms of energy production.

[MIT Technology Review, Oct. 22] The cost of electricity generation is crucial to the debate over climate change and energy policies. It's no surprise that if environmental costs are considered, renewables—particularly wind power—are a far better bargain than coal power. But it might surprise many that according to a new such analysis, solar power lags far behind wind and even hydroelectric power in its economic impact, at least in the European Union. Energy costs are rarely viewed through this lens, though it is more common in Europe than in the U.S. and other parts of the world. The study, commissioned by the E.U. and conducted by Ecofys, a renewable energy consultancy, considered the economic costs of climate change, pollution, and resource depletion as well as the current capital and operating costs of the power plants. The authors assessed the cost of generating electricity and any resulting environmental damage. They used a measure known as the "levelized cost," the estimated cost per megawatt-hour, without subsidies, of building and operating a given plant in a given region over an assumed lifetime. The authors referred to established models and academic literature to find monetary values for pollution, land use, and resource depletion. And to account for climate change, they assumed a metric ton of emitted carbon dioxide costs around €43 ($55).

ENERGY/GENERAL

Evaluating Powerful Batteries for Modular Grid Energy Storage

[Sandia National Labs, Oct. 24] Albuquerque, N.M. — Sandia National Laboratories has begun

lab-based characterization of TransPower's GridSaver, the largest grid energy storage system analyzed at Sandia's Energy Storage Test Pad in Albuquerque, N.M. Project lead David Rosewater said Sandia will evaluate the 1 megawatt, lithium-ion grid energy storage system for capacity, power, safety and reliability. The lab also will investigate the system's frequency regulation, which grid operators need to manage the moment-to-moment differences between electrical supply and demand. "Independent evaluations provide valuable feedback for industry efforts to standardize metrics for characterizing and reporting reliability, safety and performance. Companies need the standards to develop large procurement goals for grid energy storage because they must be able to compare performance and cost," said Rosewater. The data generated from characterizing a large system like GridSaver will improve operational models, identify technology or research gaps and provide feedback to manufacturers to improve system performance, reliability and safety. Additional specific tests will help validate Sandia's grid energy storage characterization protocols, which have been developed jointly by industry and the national labs, as pre-standards to measure and express energy storage system performance. "Industry needs these standards and they don't yet have them. The protocol will give us critical information that can be used to compare flow battery systems, lead-acid battery systems, lithium-ion systems and flywheel systems on an even field, apples to apples," Rosewater said.

Nestle Plant Extracts 15% of Water in Mexico from Milk

[Bloomberg, Oct. 24] Nestle SA (NESN), the world's largest food company, is now the first to run a plant entirely water-free. The Cero Agua dairy factory that opened in western Mexico this week is the globe's only zero-water plant, squeezing 1.6 million liters (422,000 gallons) of the liquid a day out of cow's milk it condenses into powder. That will reduce Nestle's water consumption in Mexico by 15 percent a year, it says. With water shortages gripping places from California to Brazil, Nestle spent 200 million pesos ($15 million) to build the plant in an existing factory in Jalisco that produces Nido powdered milk. Nestle will export the zero-plant process to its factories globally, Chief Executive Officer Paul Bulcke said. "We don't take one drop of water in and we don't take one drop out," Bulcke said in an interview at the Lagos de Moreno facility in Jalisco. Mexico "has a very long dry season so water is a very precious thing in almost all parts of Mexico." From the 1.4 million liters of fresh milk processed each day, Nestle extracts 1 million liters of purified water using inverse osmosis and other technologies. The liquid is consumed during the milk factory's production. Afterward, 600,000 liters are recycled and treated a second time for non-potable use. Combining both processes is what makes the plant unique in the world, Nestle said. Reusing water from the milk this way removes the need to extract groundwater for operations, according to the company. The water savings equals the average daily consumption of 6,400 people in Mexico, it said, or what it takes to fill an Olympic-size swimming pool.

INDUSTRIES AND TECHNOLOGIES

A Tech Twist on Home for the Holidays

[NY Times, Oct. 23] BACK in the day, a "connected Christmas" was when Mom and Dad managed to assemble Junior's train set before he woke up to open his presents. Fast-forward to 2014, when Madison Avenue is wooing shoppers to make this a connected Christmas by adding products for the connected home — a.k.a. the smart home — to their holiday shopping lists. The growth in marketing efforts for connected-home items like thermostats, security cameras, smart lights and smoke alarms is being fueled by two factors. One is the hearty appetite among consumers for technology. The other factor is a steady increase in the arrival of connected home gadgets on the shelves and websites of major retailers like Best Buy, Home Depot, Lowe's, Target and Walmart. The category is "definitely building," Kathee Tesija, chief merchandising and supply chain officer at Target, said in an interview this week as she and other senior executives discussed their Christmas 2014 marketing plans. "And it's good all year long, not necessarily just for the holidays." Those hoping shoppers will sing (with apologies to Perry Como) "There's No Place Like the Connected Home for the Holidays" include venerable marketers, newcomers and partnerships that bring together both. For instance, General Electric is selling connected-home products on its own and in a collaboration with Quirky, a start-up that is a kind of social network for inventors. Quirky has its own products, too, as do specialists in connected-home merchandise like Belkin International, with its WeMo brand, and Nest Labs, which Google acquired this year for $3.2 billion. Both Nest and WeMo plan large Christmas campaigns that include elements like television commercials, ads in magazines and newspapers, digital and outdoor ads, sponsorships, ads in stores and content in social media.

Battery Backup for Rooftop Solar Power Systems Too Costly

[Bloomberg, Oct. 24] Using batteries to retain energy from rooftop solar systems will be too expensive for at least two years, according to industry executives. That means homeowners who add solar panels to save money on utility bills will continue to lose electricity during blackouts,

even after an 80 percent decline in battery costs over the past decade. Residential solar systems typically send power to the grid, not directly to the house, and don't run the home during a blackout. For batteries to save consumers money, stored energy must be drained daily, said Jamie Evans, who runs the U.S. Eco Solutions unit for Panasonic Corp., which supplies lithium-ion cells for Tesla Motors Inc. "Solar will need storage for grid stability," Evans said yesterday in an interview at the Solar Power International convention in Las Vegas. "Battery costs need to come down and regulatory structures have to change to really scale up." As residential solar become more common from California to New York, utility grids will increasingly become stressed without storage to ease supply and demand imbalances, he said. For now, that means battery storage only makes economic sense for large businesses that get hit with extra fees when their power usage exceeds utility expectations.

DOE Testing First-of-a-Kind Carbon Capture Process

[Fierce Energy, Oct. 22] The U.S. Department of Energy (DOE) has launched a major demonstration project for converting carbon dioxide (CO_2) into commercial products. The plant will use a first-of-its-kind process to capture 75,000 tons of CO_2 from a San Antonio, Texas, cement plant, converting the greenhouse gas into other products, including sodium carbonate, sodium bicarbonate, hydrochloric acid and bleach. Launched in partnership with Skyonic Corporation, the $40 million SkyMine project has created over 250 jobs during construction, and will host more than 40 new permanent full-time jobs. The project included $28 million in grants awarded under the American Reinvestment and Recovery Act. The SkyMine technology was designed to retrofit existing coal-burning facilities, but also has potential applications for heavy industry, including cement, glass, steel and natural gas power. The byproducts produced through this process will offset other products with higher carbon footprints, and can be safely stored indefinitely.

Electrodialysis Identified As Potential Way To Remove Salt from Fracking Waste Water

[Gizmag.com, Oct. 26] Fracking is a highly controversial and divisive issue. Proponents argue that it could be the biggest energy boom since the Arabian oil fields were opened almost 80 years ago, but this comes at a serious cost to the environment. Among the detrimental effects of the process is that the waste water it produces is over five times saltier than seawater, which is, to put it mildly, not good. A research team led by MIT that has found an economical way of removing salt from fracking waste water that promises to not only reduce pollution, but conserve water as well. Hydraulic fracturing, or fracking uses water pressure to shatter oil shale formations, releasing oil and natural gas from deposits that would otherwise be uneconomical to exploit. One of the major problems with this process is that as the water is pumped through the oil shale, it picks up salt, and by the time it's pumped back to the surface, it's extremely salty – in the order of 192,000 parts per million (ppm). In contrast, seawater is only 35,000 ppm. This makes it not only too salty to be disposed of without reprocessing, but it's also too salty to be reused in fracking. The MIT research team sought to find the most cost effective means of desalinating fracking water. They found that electrodialysis is not only a promising way of cleaning up fracking waste water, but could also provide oil explorers with a closed-loop system that places less demand on local water supplies.

First Highway with Glow-in-the-Dark Markings Opens in the Netherlands

[Gizmag.com, Oct. 22] Drivers on a road in the Netherlands are now being guided by glow-in-the-dark road markings. The N329 in Oss is being used to pilot the concept, which is part of the Smart Highway project by construction firm Heijmans and design firm Studio Roosegaarde. Glowing Lines is aimed at increasing visibility and safety. The idea for Glowing Lines and the broader Smart Highway project were conceived by Heijmans and Studio Roosegaarde in 2012. The Smart Highway nomenclature is perhaps a little misleading, as none of the concepts that come under its umbrella involve internet connectedness, but they are certainly smart in the sense of being clever. The project is aimed at using different technologies to create the "interactive and sustainable roads of tomorrow." Glowing Lines uses luminescent paint that is charged by solar energy during the day and then glows for up to 10 hours when it gets dark. This means that the road markings have higher visibility than those using standard paint, whilst still not requiring electricity. The concept itself has been developed through several iterations and has been tested for durability and user experience. As such, the Oss pilot should primarily provide information on how well it works on a day-to-day basis in a real-world setting. As mentioned, there are a number of other concepts under the Smart Highway umbrella yet to be piloted. Dynamic Paint envisages the use of temperature sensitive paint on the roads to provide contextual information. For example, if it were to be very cold, then the usually transparent paint would become visible and display warning messages.

From Ashes to Energy: $1 Billion Alevo Battery Factory Surges on the Scene

Taking over an old cigarette factory in North Carolina, Alevo announces new battery technology and 3.5 million square feet of factory space to make its new GridBank batteries in.

[RenewableEnergyWorld.com, Oct. 28] New Hampshire -- Having worked in stealth mode for the past 10 years, German researchers and serial entrepreneur Jostein Eikeland have developed a new battery chemistry that they claim is non-combustible and highly efficient. The batteries, say Alevo, have at their core a new inorganic electrolyte that eliminates "both the risk of combustion and explosion and massively reduces the debilitating effects of charging cycles." According to the company Alevo has demonstrated in testing that its batteries can be charged up to 40,000 times with no signs of increase in internal resistance. This testing included over-charging followed by deep discharging. The technology will be manufactured into what the company calls a "GridBank," which is a large container-sized 2-MW utility scale battery that in conjunction with the company's battery management system, which it calls Alevo Analytics, will work to make the grid more efficient and smooth out fluctuations in energy caused by intermittent renewables like wind power and solar PV. "What this means in practice is lower costs to the utilities, smaller bills for the consumer and a reduction in greenhouse gases per megawatt that will help cost-effective coal-fired generation achieve the EPA Clean Power limits," said Eikeland in a statement. GridBanks will be manufactured in Concord, North Carolina in a former Phillip-Morris cigarette factory, which is opening today. The manufacturing plant will create 2,500 jobs at the outset and will employ as many as 6,000 people when (and if) it reaches peak production capacity. Alevo says that the factory will be able to produce up to 480 GridBanks, (almost 1 GW of energy storage capacity) in the first year of

Swiss Firm Claims Power Storage Breakthrough

[Power Engineering Int'l., Oct. 28] A Swiss company is to invest in a $1bn plant in the US after claiming a major step forward in developing power storage technology. Alevo says it has managed to solve many of the problems usually associated with large-scale batteries, and can transform power grids by providing a cost-effective way to meet demand at peak times with lower pollution than other technologies. The announcement could provide a timely boost for renewable power generators. Economies of Scale **-** Chief executive Jostein Eikeland said production in large volumes was essential to deliver the economies of scale needed for the batteries to be competitive with other sources of electricity. "We have to look at doing this on a multiple gigawatt scale to get some real benefit for the grid," he said. He added that the development could allow clean energy to be "produced on a mass scale cost-effectively and efficiently." The company has already signed contracts with China-ZK, a company 49 per cent owned by the Chinese government, and with The Sandi Group, a Washington-based management and investment group, to develop and commercialise its business in China and Turkey respectively. It is looking for more customers in the US and around the world. The difficulty of storing power is one of the energy industry's greatest challenges, and it is becoming more acute with the rise of varying sources of electricity such as wind and solar.

Wells Fargo Launches $10 Million Cleantech Innovation Incubator

First-ever program of its kind in the banking industry fosters early stage clean energy technologies

[Business Wire, Oct. 28] DENVER – Well Fargo (WFC) today launched the Innovation Incubator (IN^2) program, a $10 million environmental grant for clean technology startups funded by the Wells Fargo Foundation and co-administered by the Energy Department's National Renewable Energy Laboratory (NREL) to foster the development of early stage clean technologies for commercial buildings. The program is the first of its kind within the banking industry. Announced today at the NREL Industry Growth Forum in Denver, clean technology startups will be identified and recommended by Wells Fargo's network of technical, financial and industry advisors at laboratories and research facilities across the country. The first of three rounds of selected companies will be announced in early 2015, and will receive up to $250,000 for business development needs, research and testing support at NREL's world-class facility in Golden, Colo., along with coaching and mentorship from Wells Fargo. An independent advisory board of nearly a dozen industry leaders representing the commercial building sector, academia, community organizations, successful entrepreneurs and technical experts will select the final companies to be included in the IN^2 program.

LEGISLATION AND REGULATION

Canadian Power Producers Want To Keep U.S. Border Open: Kemp

[Reuters, Oct. 27] In a very real sense, the North American electricity market is borderless," Canada's electric industry wrote to U.S. energy regulators last month. There are more than 35 high-voltage connections across the border. Another six lines will be in service by the end of the

decade or are planned, the Canadian Electricity Association wrote to the U.S. Department of Energy, which is currently conducting the first Quadrennial Energy Review. For the most part Canada is a major exporter to the United States - especially in the eastern half of the continent. In 2013, Canadian power producers exported almost 63,000 gigawatt-hours of electricity to the United States, mostly from Quebec (27,000 GWh), Ontario (17,000 GWh) and Manitoba (10,000 GWH). But the flow is not entirely one-way. Canada also imported nearly 11,000 GWh from the United States mostly into British Columbia (7,000 GWh) with small amounts into other provinces to even out short-term and seasonal imbalances between supply and demand. As with most aspects of the relationship between Canada and its giant neighbour, the relationship is unequal ("Comments of the Canadian Electricity Association to the Quadrennial Energy Review," Sep 2014). Exports account for 5-10 percent of Canada's power production, according to the CEA. By contrast, Canadian exports accounted for only a very small percentage of power consumed in the United States.

EU Sets Challenge to U.S. With Toughest Emissions Target

[Bloomberg, Oct. 24] European Union leaders backed the most-ambitious carbon emissions goals of any major economy, in a bid to crank up pressure on the U.S. and China ahead of climate talks in December. Heads of government from the bloc's 28 nations endorsed a binding target to cut greenhouse gases by at least 40 percent from 1990 levels by 2030 at a summit in Brussels. Meeting that goal would cost about 38 billion euros ($48 billion) a year, according to EU estimates. The EU is on track to meet its previous goal of a 20 percent reduction by 2020. "That sends a strong signal to the international community and I hope that the signal is being received today in Washington, in Beijing and other big economies so that they will prepare their ambitions accordingly," EU Climate Commissioner Connie Hedegaard said in an interview. "Now investors, businesses, everyone will know that this is where we are headed -- these are the targets."

WESTERN POWER

A Tough Road Ahead for Concentrated Solar Power

[The Desert Sun, Oct. 25] Seen from the air, the Ivanpah solar project is both breathtaking and terrifying. In a valley just north of Interstate 15, near the Nevada border, close to 350,000 mirrors reflect sunlight toward three massive towers, which glow impossibly bright as they convert that sunlight into energy. Ivanpah is the largest concentrated solar plant in the world. Unlike traditional solar photovoltaic panels — which convert sunlight directly into electricity — concentrated solar technology uses sunlight to heat water or another liquid, ultimately creating steam that can be used to turn turbines and generate electricity. Concentrated solar power is much more expensive than solar panels and wind turbines, but advocates say it has a major advantage over those technologies, particularly in California: the ability to store energy. As the state races to adopt renewable energy, one of its biggest challenges will be intermittency — the fact that most solar and wind plants only produce power when the sun is shining, or when the wind is blowing. "We bought a lot of really good wind and solar resources, but those resources alone can't operate the grid," said V. John White, executive director of the Center for Energy Efficiency and Renewable Technology, a leading renewable energy advocacy group based in Sacramento. Concentrated solar with storage could fill the gaps in intermittent renewable generation, limiting the need for carbon-emitting natural gas plants. But despite concentrated solar power's benefits, it has been hobbled by financial and environmental challenges — and nowhere have those problems been clearer than in Riverside County. Two concentrated solar projects — Palen and Rice, both of which would have been built in eastern Riverside County — have been dropped by their developers in the last few months, despite earning regulatory approval. At least two other concentrated solar proposals in the county have stalled or been abandoned over the last few years, with just one such project — NextEra's 250-megawatt Genesis plant — making it to completion. Concentrated solar plants cost much more to build than solar photovoltaic plants, and environmental groups have criticized "power tower" projects, like Ivanpah and Palen, for their potential to kill thousands of birds. Concentrated solar plants can also use hundreds of times more water than solar photovoltaic plants. Even some environmental groups, though, see a future for concentrated solar — if the wildlife impacts can be reduced. "A lot of it comes down to siting and where you put these projects," said Ileene Anderson, a senior scientist with the Center for Biological Diversity. "I think there are benefits to concentrating solar technologies with regards to storage, which is something we'll have to ramp up — filling the gaps to transition away from fossil fuels."

Electric-Vehicle Maker Cenntro Moves HQ to Sparks

[Reno Gazette-Journal, Oct. 24] Sparks welcomed a player in an industry befitting of the city's name as a New Jersey-based electric commercial vehicle maker moved its headquarters to

Northern Nevada. Cenntro Automotive announced the move as well as a new manufacturing facility in Sparks during an event at the Reno-Sparks Convention Center on Friday. The company is expected to create 300 jobs in the next few years.

First Solar Eyes New Solar Plants in New Mexico

[El Paso Times, Oct. 18] First Solar, a large solar panel manufacturer and solar plant developer, has begun the early process of possibly developing two more large solar plants in the El Paso area. The Phoenix area company, which built a large solar plant at Santa Teresa several years ago on private land, and also built New Mexico's largest solar plant near Deming on state-owned land, has initiated the process to get state leases for 3,410 acres of land near Santa Teresa and Chaparral for possible future, huge solar plants. The current, 20-megawatt Roadrunner Solar Generating Facility at Santa Teresa , which began operating in 2011, and the 50-megawatt Macho Springs Solar Power Plant near Deming, N.M. , the largest solar plant in New Mexico , which began operating in the summer, supply El Paso Electric . Other companies own both of those plants. “First Solar continues to see New Mexico as a robust market for utility-scale projects, and continually evaluates potential projects for their viability. We are in early stage development phases related to potential projects on state trust land in Otero County (Chaparral area) and Santa Teresa ," Steve Krum , a First Solar spokesman, said in a statement. "Our project development and due diligence process includes bidding on these long-term lease opportunities in order to continue to fully assess the suitability of the sites and advance the development process." The New Mexico State Land Office last week announced it had begun the process to auction off land leases in January for solar projects on 2,770 acres of state land three miles north of Chaparral , which borders Northeast El Paso ; and on 640 acres of state land about six miles west of Santa Teresa , which borders El Paso's West Side The Chaparral land is for a proposed 150-megawatt solar plant, which would be the largest in New Mexico , and the Santa Teresa land is for a proposed 50-megawatt solar plant, land office officials reported. First Solar asked the state to auction leases for those areas, officials said.

Las Vegas's Mandalay Bay Unveils Rooftop Solar Array

[Las Vegas Sun, Oct. 22] It wasn't the average Las Vegas rooftop party. Energy Secretary Ernest Moniz was the special guest at a rooftop event to unveil Mandalay Bay's new, first-of-its kind solar installation on the Strip. The solar array, built by NRG Energy, has 21,324 panels and will supply electricity to 20 percent of the resort's operations. Construction started on the solar array in August and finished two weeks ago. It will go online in late November. That's enough electricity to power around 1,000 homes and will result in a carbon reduction equivalent to removing 6,300 cars off the road, said Randall Hickok, an NRG Energy vice president. Twenty percent of the solar panels were funded with taxpayer dollars through a Department of Energy grant from the 2009 stimulus program, Hickok said. Skepticism has shrouded government funded solar programs since the energy department started investing in them. But Moniz signaled that the private sector is now taking notice and the industry is turning a corner. Some in the solar industry are calling 2014, the year of solar. The government has funded five large-scale solar projects this year. That promise of investment has spurred 17 private sector solar projects, Moniz said. He said companies like NRG Energy, which owns solar arrays and works out agreements with private companies, helps to drive costs down.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

INCENTIVES

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona’s incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone

- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

(ACA) PROGRAMS

DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News
  DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

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The following solicitations are now available:
(Click on title to view solicitation)

- Energy for Sustainability – Current Closing Date for Applications: Nov. 5, 2014 Full Proposal Window: Oct. 01, 2014 – Nov. 5, 2014
- SunShot "Race to the Roof" Initiative - Registration due October 31, 2014
- Energy, Power, and Adaptive Systems - Close Date: Nov. 3, 2014
- National Robotics Initiative - Response due Nov. 14, 2014
- NSF/DOE Partnership on Advanced Frontiers in Renewable Hydrogen Fuel Production Via Solar Water Splitting Technologies 2014-2016 - Close Date: Dec. 11, 2014
- Energy for Sustainability – Current Closing Date for Applications: Nov. 5, 2014
- Nuclear Energy University Programs - Fellowship and Scholarship – Response due November 30, 2015
- Advanced Fossil Energy Projects - Solicitation Number: DE-SOL-0006303 Expiration Date: Nov. 30, 2016
- Repowering Assistance Program - Ongoing
- Rural Business Enterprise Grants - Ongoing
- Rural Business Opportunity Grants - Ongoing
- Sustainable Agriculture Research and Education Grants - Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- Green Refinance Plus - Ongoing